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ABSTRACT

Principals and superintendents often make decisions about the purchase and allocation of computer hardware and software without consulting individual teachers; however, teacher participation is necessary for successful implementation of all phases of computer programs. Initially, computer literacy training should be made available to both administrators and staff; then a computer committee representative of all interested factions should be established to ensure that implementation is thoughtfully considered, thoroughly planned, and well communicated to those affected. The committee should develop a philosophy which details how computers will affect the existing curriculum, and a plan which will decide on the distribution and location of hardware within the school. Before any substantive changes can be made in the curriculum, however, funds need to be allocated and budgeted for hardware, software, supplies, maintenance, inservice training for the teaching staff, and an ongoing support mechanism. It will prove beneficial to prepare both short-range (1 year) and long-range (5 year) budgets; in this way, plans can be made for a gradual phase-in of the materials needed to establish and maintain the computer-supplemented curriculum. If a unified effort is made by all groups within the school district, the planned, orderly integration of computers into the curriculum will provide maximum benefits to all concerned. (JB)

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WHAT CLASSROOM TEACHERS WOULD LOVE TO TELL ADMINISTRATORS ABOUT COMPUTERS

or

How to Successfully Introduce Computers Into Your School District's Curriculum

by John H. Meyer
Bowling Green State University
Presented at the Annual Conference
Educational Computing Consortium of Ohio
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"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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Have you ever had teachers stare at you with daggers in their eyes? If some of the practicing teachers in my computer education classes had their way, that would happen on a regular basis regarding the manner in which their principals and superintendents have administered the purchase and allocation of computer hardware and software.

It is not unusual for me to hear horror stories of the way in which decisions were made regarding the use of computers in their schools. One of teachers' most common complaints is that they had little, if any, input in the decision to buy the hardware which "showed up" in the building. Alfonso, Furth, and Neville (1981) remind us that ... "The effectiveness of change efforts will be enhanced when the people who will be affected are involved in the planning and decision-making." The Rand Study (1973) reinforces this notion when commenting on the long-range implementation of innovations.

> "Teacher participation in decisions concerning project operations and modifications was strongly correlated with effective implementation and continuation...Moreover, where project activities and objectives reflected significant teacher input, the staff were more likely to invest the considerable energy needed to make the project work. The project, in short, was 'theirs'."(Rand Corp., 1973)

Teacher participation is necessary for all phases of implementation of computers in the curriculum. Before any money is spent on machines and programs, it would be wise to make some form of computer literacy training available to <u>all</u> certified staff. It is difficult to ask teachers to willingly learn something that you, as administrators, are

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not. If you are all in the venture together, there is greater likelihood of the innovation being successfully implemented and made permanent. Henry Brickell put it this way.

> "(The superintendent)...may not be, and frequently is not, the original source of interest in a new program, but unless he gives it his attention and actively promotes its use, it will not come into being."(Brickell, 1961)

Teachers want a hand in the choosing hardware as well as software. The following horror stories illustrate the need for this.

ASK THE EXPERT

A superintendent asked one of my colleagues which machine he ought to buy for his school district. When asked what they would be used for and what kind of machines the teachers wanted, he could not answer. Later, he called back and asked what kind of machines the university had. A month later, he called again to say that he had just taken delivery on 67 Apple II's and asked if we could show the teachers how to use them.

SUPPORT YOUR LOCAL BUSINESS

A corporation purchased a new computer and, for tax purposes, decided to donate the old one to the local school district. The superintendent, in order to show how valuable the computer was to the district, ordered that the teachers have it in use within one week. Being a business machine, it could not run any of the software which the district

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already owned. Besides, no one knew how to program it!

Perhaps the best solution for a school district is to establish a Computer Committee made up of representatives of all interested factions. This should ensure that implementation is thoughtfully considered, thoroughly planned, and well communicated to those affected (Alfonso, Furth and Neville, 1981).

It is most important that representatives of the administration be included, because, as Yin puts it, "...when district officials got involved with micros for administrative purposes, they were more likely to provide resources for staff development and related purposes. In other words, it was no longer the sole responsibilty of the teacher to answer all implementation questions."(Yin, 1985)

The first task for this committee is the establishment of a philosophy which details how computers will affect the existing curriculum. It must answer some of the following difficult questions:

1. What do you hope to accomplish with the addition of computers into the curriculum?
2. Will computer use be integrated into the existing curriculum or will there be a separate computer literacy/computer science curriculum added?
3. Do you intend to implement computer-assisted instruction, computer-managed instruction, administrative uses of the computer, computer-

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generated teaching materials, or some combination of these?

The second task, and probably the most important, is one of planning. The first plan should be how to distribute the hardware. Topics to be considered include: Where will the machines be housed? In a lab? One in each classroom? Shared among several classrooms? In the library? How will the use be distributed among students and teachers? How many minutes per week can a child expect to spend working with a computer?

Before any substantive changes can be made in the curriculum, funds need to be allocated and budgeted for hardware, software, supplies, maintenance, and inservice for the teaching staff. If possible in your school district, it makes sense to prepare both short-range (one year) and long-range (five year) budgets. In this way, plans can be made for a gradual phase-in of the materials needed to establish and maintain the computer-supplemented curriculum.

It will be important to know the answers to the following money questions: How much money do you have to spend? Of that sum, what portion will be spent on hardware? Maintenance of the machines? Supplies? Teacher inservice? Software?

Hardware is of little use when there are only a handful of programs to run for an entire school. Therefore a considerable amount must be set aside for maintaining, updating, and increasing the software collection each year.

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How much money will your long-range budget allocate to be spent in continued support over each of the next five years?

Below is an outline of additional budgeting questions which need to be considered.

1. Hardware
   a) Which machines and peripherals will you purchase?
      1) Machine brand and minimum amount of memory needed
      2) Printer? One printer for how many computers?
      3) How many disk drives per machine?
      4) Paddles or joysticks?
      5) Graphics tablets?
      6) Modems? Subscriptions to databases?
      7) Network?
   b) Purchase from whom?
      1) Local store
      2) Manufacturer
      3) Cheapest catalog source
2. Software
   a) Types (Set the proportion of drill & practice, tutorial, simulation, teacher utilities, CMI, administrative programs)
   b) Policy and procedures for making selections?
   c) Purchase from whom?
   d) Number of copies of each program?
      1) Discount available for multiple copies?
   e) Backups available?

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f) Policy for damaged disks?

3. Supplies

   a) Printer paper

   b) Printer ribbons

   c) Disks for teacher records

   d) Spare parts, cords, etc.

4. Maintenance

   a) Who will provide it? How quickly? At what cost? Will they provide "loaner" equipment while yours is being repaired?

   b) Purchase a maintenance agreement?

5. Inservice for Personnel

   a) Presented by whom? University? Consultants? Present faculty members?

   b) How frequently? When? Of what duration?

   c) Cost, if any? Incentives?

   d) Credits earned?

   e) How many can be accomodated?

   f) Mandatory or voluntary?

In order to facilitate the successful introduction and use of computers in schools, it is necessary to provide an ongoing support mechanism. According to Robert Yin (1985), President of Cosmos Corporation,

> "...appointing a microcomputer coordinator at district and building levels is even more important than buying the computers themselves...Where schools or districts have appointed coordinators and allotted released time...Key people have become well enough informed to begin software libraries and to work with teachers in different topic

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areas. They have also become links between principals and classrooms at the building level and between principals and the superintendent's budgetary decisions at the district level."

If this kind of monetary commitment is not possible, it is at least necessary for someone, such as a volunteer from the computer committee, to act as a building consultant or "expert" on call.

In conclusion, a unified effort must be made by all factions within the school district. As a result, the planned, orderly integration of computers into the curriculum will provide the maximum benefit to the students for whom we all work.

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